

OTAWA HOME COMPUTING

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GRAPHICS PACKAGES

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C-64 DISK OF THE MONTH

The C-64 Disk of the Month is carried at the stores listed below. It sells for \$4.50 and is available two days after each meeting.

ALI COMPUTERS	1152 Ogilvie Road	744-0220
COMPUCENTRE	Carlingwood Mall Rideau Centre	729-0448 230-3672
MEDIA LAND (G-Plus)	130 Albert Street 301 Moodie Drive	230-7750 820-7326
MR DISKETTE	119 O'Connor Street	232-5203
SILICON ALLEY	79 Bank Street	232-2968
ZAP & ZOOM	435 Kent Street	232-4400



RENEWAL TIME

NAME _____
ADDRESS _____
CITY _____ PROV. _____
POSTAL CODE _____ PHONE _____
COMPUTER _____ DMC # _____

PLEASE MAKE CHEQUES PAYABLE TO: (\$15/YEAR)
OTTAWA HOME COMPUTING
P.O. BOX 4164, STATION 'C', OTTAWA, ONTARIO, K1Y 4P3

OTTAWA HOME COMPUTING

OTTAWA HOME COMPUTING is the newsletter of the Ottawa Home Computing Club. Membership is open to all with a genuine interest in personal computing for \$15/year in Canada. Membership includes OTTAWA HOME COMPUTING, which is published 10 times a year. Meetings are usually held on the third Monday of each month, 7:30 p.m. at Charlebois High School, corner of Heron Road and Alta Vista Drive in Ottawa.

When submitting articles, please type or write legibly on 8 1/2 by 11 inch paper, double spaced. Articles may also be submitted on disk, or in a "print-ready" format. Contact the editor for more information.

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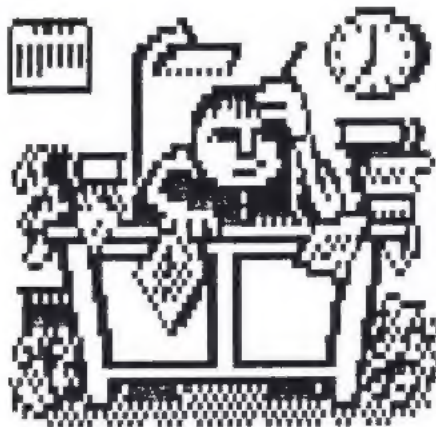
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MEETING SCHEDULE

The following is the list of meeting dates for the next year. The March date is not confirmed, and may have to be changed, due to Spring break. *The May (and possibly the March) meeting is not on the third Monday of the month.

1986	1987
July 21	January 19
August 18	February 16
September 15	March 16 or 23*
October 20	April 20
November 17	May 25*
December 15	June 15
	July 20
	August 17

AGENDA

July 21 Meeting

7:30 Disk of the Month
Membership Sales
Socialization

8:00 Business Meeting

8:20 Graphic Packages
(see note in "Upcoming
Meetings")

9:00 Special Interest Groups

Group	Room
Apple & Mac	Room 227
The graphics programs DAZZLE DRAW and FANTAVISION will be demonstrated, plus any other graphics programs for Apple Computers brought in by members.	

Commodore and
Disk of the Month Room 219
Same as above, but for Commodore. If Paul Anderson doesn't have the answer for you, he'll direct you to someone who does.

Amiga	Room 208
Don White has put together a number of disks of public	

domain software for the Amiga. You can buy the disks, watch his demos, and ask questions.

C128, CP/M	Room 210
Peter Nickless has a rapidly increasing library of C128 and CP/M software. If you've got a C128, drop in and say Hi.	

COMAL	Room 221
Comal is a programming language similar to BASIC, but much faster, more powerful, and easier to use. Find out about it.	

Forth	Room 230
Forth language is shorter and faster than BASIC. (20 to 600 times faster). Used with robots, sensors, and many appliances. Much more.	

SPECIAL INTEREST GROUPS

The following are Special Interest Groups (SIGs) which meet monthly and determine their own format. If you're interested in developing further in one of these fields, drop in. You're sure to find someone who shares your interest.

Computer Graphics	Room 223
NEWSROOM and KOALA PAD will be demonstrated, plus any other graphic programs brought in by members.	

Beginning Computerists	Rm 224
Pierre will be demonstrating PRINT SHOP and PRINT MASTER in this workshop.	

Telecommunications	Room 212
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Data Base Users	Room 213
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Machine Language	Room 215
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Music	Room 225
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More details and possible room changes will be indicated

Buffers & Spoolers & such

by Jan Frajkor

The first thing you need to make a computer really useful is a printer. We all know that.

But you really will not be taking advantage of the computer's fantastic ability to save you time and effort until you also get a printer buffer.

A buffer, unlike a printer, isn't one of those obviously-needed gadgets so a lot of people won't really know how useful one can be until they actually use one. It's like olives -- you have to try them to find out how nice they are.

Why does a buffer save you time? Because your computer can think a great deal faster than your printer can print.

Let's say you've just finished the Great North American novel (or at least a few chapters of it) with your SpeedScript program, and there are 64-thousand characters sitting in your RAM. That's about 32 double-spaced pages.

Unless you own a very high speed laser printer, it's going to take your standard old dot matrix 10 to 15 minutes to print all that, and a letter-quality printer may take all of 45 minutes. And your computer is just sitting there, bored out of its little silicon mind, spewing out characters at a snail's pace.

Now suppose you had a buffer with 64K of RAM. Voila -- in about the same time that

it takes to save your text to disk, you have it all printed into the buffer. The buffer does it out to the printer at the printer's pace, and within a minute or two you can be loading a spreadsheet into the old C64 to calculate the royalties on your novel while the printer is still printing it.

BUFFERS VS. SPOOLERS

Let's make a technical distinction now between spoolers and buffers. Essentially they serve the same purpose, which is to free up the computer while printing is on.

But true spooling just means taking data from somewhere -- RAM, tape, disk or what have you -- and sending it out to the printer independently of the computer. You've no doubt heard of setting aside a section of memory in computers like the IBM, Amiga, or Atari 520ST to function as a printer buffer. Really, that's spooling. Once the data has gone through the memory area, it's gone. It's printed.

A true buffer is a more useful device. It soaks up the data from the computer, and sends it on to the printer, but it also *keeps* a copy of the data in its RAM. So if you want to print a couple of more copies, you just push the right button and it does the whole thing all over, printing your novel again while you are still using the computer figuring the tax consequences of your royalties.

A good, useful buffer needn't

continued on page 24

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continued on page 24

BBS Instructions

OTTAWA HOME COMPUTING CLUB
BULLETIN BOARD SYSTEM

This is the first half of the User Instructions for the Club BBS. The second half will be published next month. These instructions are available on the BBS (you capture them) or, at the meeting, from the newsletter editor in a handy, easy on the eyes, 8 1/2" x 11" format (\$1.00 to cover costs).

When you call, you will see garbage on your screen and then a line saying:

Press RETURN now!

Press RETURN while the readable message is the last on the screen. You will see the welcome message and the message of the day supplied by the system operator. The system will also ask for your name or user number.

If you are a new user, type in your name and press RETURN. The system asks if you want to become a registered user. If you reply Y, the system will assign a user number for you. It will then ask for your address, password, phone number and so on.

If you are a registered user, type in your user number or name. The system will immediately ask for your password, skipping the rest of the log-on procedure. If you want to change your personal information or your password, use the Main Menu command Edit my profile.

Once you've successfully entered your password, the system looks for new mail. It reports the number of new items, the number addressed to you and the number addressed to all users.

If you are a system operator, the system also reports censored mail that needs to be read or edited.

Then the system displays your user number, your name, your status, the number of times you've called and the last time you called. Check these last two items to be sure no one else is using your password. The system also shows how much time you have left on your account today.

When you press RETURN, the main command prompt appears, set up for your default SIG on this bulletin board.

In brackets you will see the time used so far and the time remaining for today.

Press RETURN to see the Main Menu.

```
[I]Instructions
[N]ews
[F]ile transfer
[M]essage base
[S]IG change
[C]hat with system operator
[E]dit my profile
[L]ast callers of this system
[P]rogrammer functions
```


[/] System operator functions

[B]ye (logoff)

You may not see all options; only a system operator has access to them all. You may select any command by typing the first letter of the command. No RETURN is needed.

Instructions - show you how to deal with the bulletin board.

The instructions written by the operator appear on the screen. If there is no such file, a message appears saying so.

If the text is long enough, it will scroll. Press CTRL S to make it stop, CTRL Q to resume. When you press the space bar, you will see the Main Menu. (You may have to scroll through the entire text before the system will let you exit. The system operator decides whether that's required.)

News - contains new information or announcements.

The news written by the operator appear on the screen. If there is no such material, a message appears saying so.

If the text is long enough, it will scroll. Press CTRL S to make it stop, CTRL Q to resume. When you press the space bar, you will see the Main Menu. (You may have to scroll through the entire text before the system will let you exit. The system operator decides whether that's required.)

File transfer - lets you move information to or from the bulletin board.

The header file written by the operator appears on the screen.

If the text is long enough, it will scroll. Press CTRL S to make it stop, CTRL Q to resume. When you press the space bar, you will see the File Transfer Menu:

- [D]ownload
- [U]pload
- [S]IG change
- [M]ain menu
- [B]ye

You need type only the first letter of any command.

Download - lets you transfer data from bulletin board files to your computer.

A prompt will ask you whether you want ASCII, DFT or XMODEM transfer. Your answer depends on your terminal package; read the instructions that came with it to find out which it requires, then type in the appropriate first letter and press RETURN to proceed.

The system will next show you how many files are now available and ask at which number you would like to begin a listing. Type in the number you want to start at and press RETURN. If you want to start at the beginning, you may just press RETURN.

The system will list as many files as will fit on the screen, showing the name, length and description of each file, then ask which file you want to transfer.

If you want to stop the listing, press the space bar.

If you want to see other files, press RETURN to see more

until the list is exhausted.

If you decide not to download, press 0 (zero), then RETURN (or just ESC). You'll be returned to the File Transfer Menu.

When you find a file you want to transfer, type the file number and press RETURN. The system will first tell you how long it will take to transfer the file or tell you that you don't have enough time left today to complete the transfer. If there is enough time, it will ask you to enter the transfer mode you specified earlier. When you do that, it immediately transfers the file. If you don't want to transfer after seeing how long it will take, press ESC to return to the File Transfer Menu.

When it finishes transferring the file, the system returns you to the list of files, from which you may select another file to transfer.

Upload - lets you send files to the bulletin board system.

A prompt will ask you whether you want ASCII, DFT or XMODEM transfer. Your answer depends on your terminal package; read the instructions that came with it to find out which it requires, then type in the appropriate first letter and press RETURN to proceed.

The system will ask for a filename. Type one in and press RETURN. If the system finds it already has a file with the same name, it will ask you for another name.

When you've chosen a filename, the system will ask for a short description. Type in not more than 50 characters and press RETURN.

Then the system will ask you to enter the transfer mode you specified earlier. When you do that, it's ready to take your file. Do whatever your terminal package requires to actually start the transfer.

When it finishes transferring the file, the system returns you to the file menu.

If your day's time runs out during upload, the upload will finish. At its conclusion you'll be automatically logged off.

SIG change - lets you change to another SIG without leaving the file transfer mode. The system will ask which SIG you want to go to.

If you press RETURN without a number, you will see a list of the current SIGs. An asterisk before a SIG means you have access to it. D denotes your default SIG.

Type in the number of the SIG you want and press RETURN. You will see the File Transfer Menu for the new SIG.

Main menu - sends you back to the Main Menu.

Bye - ends your call to the bulletin board system. See the Main Menu Bye command for your options.

Message base - lets you read mail addressed to you or to all users and lets you leave mail for others. This command also lets you read only the new mail or scan mail without reading it all.

The mail system header written by the operator appears on

the screen.

If the text is long enough, it will scroll. Press CTRL S to make it stop, CTRL Q to resume. When you press the space bar, you will see the Message Base Menu. (You may have to scroll through the entire text before the system will let you exit. The system operator decides whether that's required.)

[R]ead mail
[L]eave mail
[N]ew mail
[S]can mail

You need type only the first letter of any command.

Read mail - lets you read mail left for you or for all users, either within the SIG you are logged onto or for all SIGs on the bulletin board.

The system will first show you how many letters are on file and which one you read last, then ask at which number you would like to begin reading. Type in the number you want to start at and press RETURN.

If you want to start at the beginning, you may just press RETURN.

The system will next ask if you want to see your mail from all SIGs. Press Y or N as appropriate.

If you reply N, you'll see only the letters left for you in the SIG you're now logged onto.

If you press Q, you'll be returned to the Message Base Menu.

Next, the system will ask if you want it to pause between letters. Press Y or N as appropriate.

If you choose to pause between letters, the system will print one letter on the screen, then wait until you press N for the next letter.

If you choose not to pause, the system will ask if you want to pause after those letters addressed to or written by you. Press Y or N as appropriate.

If you are logged on locally (via the F1 key) as a system operator, the system will also ask if you want to send the letters to a printer. Press Y or N as appropriate.

The system will display your letters as you specified. Press CTRL S to stop scrolling, CTRL Q to begin again.

When the display is not scrolling, either because you've stopped it with CTRL S or because a single letter or all letters have been printed, you may choose among several actions:

[N]ext
[R]eply
[A]gain
[Q]uit
[D]elete
[E]dit
[W]rite
[C]hange
[O]pen
[P]rivate

continued next month

MINUTES from page 5

Don White talked about the BBS and its new software. The protocol is 8 bits, no parity, 1 stop bit, but not to worry; the system will analyze your signal and make adjustments. 1200 baud is coming.

Unregistered users have 20 minutes access to the public board. Club members can register by leaving a note with the Sys-op before signing off. Leave your membership number and the number assigned you by the BBS. Then you will have access to all the SIGs (64/128, Apple, Mac, Amiga) as well as public and your access time will be increased to 30 minutes. You will also be able to download using the Xmodem protocol (not Punter). Several Public Domain Xmodem terminal programs are available consult your librarian.

Mary Bero has received 2 C128 and 6 CP/M disks from TFUG, which are now available to members.

The presentation on Artificial Intelligence followed up on some of the articles run in the newsletter. Slides illustrated how very specialized programs can analyze input from users very exactly if they are in a certain field; general programs cannot handle all the vagaries of the English language: "How many times have I told you not to eat peas with your knife!" does not require a factual response.

MAY MINUTES by Carl Bigras

Approximately 75 people were in attendance for the meeting. Pierre Castricum announced that the Newsletter will have a new format of 8 1/2" x 11" by September or October. Also, the Newsletter needs volun-

teers for different tasks. By popular demand we might see a games night and a garage sale night.

Pierre read a few lines from *Run* magazine (July) indicating that Commodore is redesigning the C 64 and the 1541 disk drive (the 164 in a 128" style case and the 1541 with a "home sensor" which will avoid a lot of head knocking), as well as coming out with a new monitor with a 40/80 column switch (the 1802, but 80 columns not in colour), and a 3 1/2" disk drive (intended as a second drive, with 737k formatted storage, which is 4 1/2 times that of a 1541 diskette. Access speed is 60% faster than the 1541 or 1571). For the 128 there will be two new RAM expanders: the 1700 (+128k) and the 1750 (+512k).

Don White mentioned that the BBS is working fine but sometimes loses track of where the files are. New BBS instructions are available for \$1.00 for those who don't want to use their allocated time downloading them.

Graham Darling spoke about Maplecon and invited everyone to attend.

Terry Barber(?) wants to organize a bulk buy on Amigas for \$1700 and Atari 520s for \$1300 (prices are approximate).

Wayne Schaler introduced George Fisk, a lawyer from Gowling & Henderson. George mentioned that the Canadian laws are changing to accommodate the new types of crimes; as of Dec. '85 two amendments were brought in, one for computer mischief and the second for data tampering. Our first protection is to copyright our material. IBM will spend up to 19 million dollars developing the word processor DISPLAY-WRITER: IBM estimates that

they lose 22-26 million dollars a year from people copying their programs.

Recently the RCMP seized about 2000 programs in the Toronto area. In the future, the Justice Dept. will be increasing the fines from the present levels (which were established in 1921).

The question period afterward extended well past 9 o'clock but no one left the room, so interesting was the topic.

CLASSIFIED

FOR SALE: 1525E printer in original box. \$100. Carl Bigras, 776 14th after 4 pm.

HELP WANTED: An Apple Editor, Games Review Editor, Advertising Manager and Features Editor. Pays: pathetic; non-monetary rewards: fantastic. Experience not necessary, we will train. Interested? Call 837-3197, ask for Bob.

C64 Game Design

Twentieth of a series
by John Batchelor

Two items on my agenda this month: a correction and a review. The first is a good object lesson for programmers. On the C64, there are so many features that you can spend all your time making programs look pretty and sound interesting - and you neglect the fundamentals. You have to have the underlying mathematics or procedures correct in the first place.

On the October 85 disk (#33), I contributed a group of programs that purported to paint the Mandelbrot set of complex numbers. The pictures were pretty enough but the formulae were wrong.

The mistake was the classic one for beginning programmers and a very embarrassing one for someone with enough nerve to submit for general use. The two lines in question are:

```
80 z:=z+t; w:=w+d
90 w:=z*t; t:=t
```

The problem is that line 80 changes the value of z before it can be used in line 90 to calculate w. What we really wanted was:

```
80 t:=z*z-w*w+d
90 w:=2*z*t+w*t; z:=t
```

This correction uses the variable t to store the new value of z while w is being calculated. The incorrect formula distorts and stretches the Mandelbrot set by the outline w. - similar enough to convince me that I merely had not let the computer go through enough iterations. So I let my C64 cook overnight and put the same bad math into my WANG at work and let it run all weekend. They produced beautiful, intricate and wrong pictures of course.

With the right math, even the C64 can do good work in reasonable times. Compiled versions of the fixed program should be on disk #42. By way of apology too, I've submitted MATHC, 200N for the C64. Amiga and IBM versions appeared in April and May *Computing Now*.

This allows you to change the location, detail and density of the plot and zoom in and out on interesting areas. I used the FGM BASIC extension so I can't compile it. However, good pictures can be produced with cell size 2 and 16 or 32 iterations.

I wrote about Activision's GEMMAKER in an earlier column. A similar but simpler and cheaper program is GAMES CREATOR from Mastertronic -- less than \$20. While GEMMAKER (GM) had a whole programming language, GAMES CREATOR (GC) uses menus from which to select speeds, sounds and characteristics. As the included demos illustrate, you can create PACMAN, JUMPMAN or DEFENDER-style games with relative ease.

But GC makes a lot of decisions for you. For example, hero sprite must be multi-coloured and has exactly eight shapes for animation -- two in each major direction. That is, when you move up, your sprite will alternate between two shapes, say, hand over hand climbing of a ladder. Villain

sprites (called "aliens") have only four shapes. GM has virtually unlimited flexibility in sprite animation.

But maybe you should know what you do get instead of what you don't. You do get a hero, five enemies, bullets for both sides, multicolour sprites, animation, editable shooting and dying sound effects, theme music (single voice), scoring, level speed-up, editable characters for backgrounds, single screen scrolling, programmable or random enemy motion, jumping and shooting. You can save your creations in just 31 blocks. However, unlike GM, there is no provision for running your games unless you have the original disk -- in other words, no run-time module.

I admire the programming virtuosity in GAMES CREATOR. Altering the demos from the various memos is a lot of fun and very instructive. If GC allowed you to devise self-contained games for further distribution, I'd have no complaints. For \$20, you can have a lot of fun.

=====



be atrociously expensive, but count on spending \$150 or so. Buffers that work much faster and have more features will naturally cost more, but often the added little touches aren't really necessary.

Get the most memory you can afford. Personally (because I write a lot of long stuff) I think 64K is a minimum, and if I had the money I'd go for 256K. If you write in short bursts, you might be able to get by with 16K. Less than that isn't worth it. Some new printers come with 2K (about one page) or even as much as 8K (about four pages) of buffering built in, and that will certainly save you a few minutes. But it's not real buffering. It's spooling.

MOST FEATURES FOR YOUR MONEY

Try to get the most features for your money. You should have, as an essential, a Memory Clear, Stop Print, and Repeat Print control. A Pause Print control isn't necessary, but is very handy. In my work, I have a cheapie little 64K buffer that cost me \$145 and it comes with only a Repeat and a Clear control (which also stops print, naturally, since it wipes out the data).

I also work with an office system that has a 64K buffer as well, but costs \$500 and has a Pause print and other fancy features, and also works much faster. I'm happy with them both.

So what do all these features mean and how do they work? Let's go back to our Great North American novel.

You have just dumped your 32-page tome into the buffer

and it is printing out -- suppose you suddenly notice a paper jam. Here's where a Pause print control really helps. You pause it, fix up the paper, and restart it printing just where things left off.

Without a pause control, you start all over from the beginning.

If the buffer has a Stop/Repeat feature, you just push a button to start over. If it has just a Clear control, you will have lost everything in the buffer and will have to reload from your computer. That's how my cheap buffer works. You give up *something* for the price discount.

Here's another useful trick you can play with a buffer. Let's say you are printing posters advertising where people can buy your novel, and you've created it with Speed-Script and Fontmaker. Just one fancy page. But you want 30 copies. Without a buffer, you would have to sit there and wait for each page to print, and hit the Control-P button again -- probably 15 minutes worth of sitting there hitting a control and tying up your computer.

Of course, you could dump the single page to the buffer, get back to work on the computer composing invitations to your novel's introductory cocktail party, and punch the buffer's repeat button after every print. But that's only marginally better.

The best is this -- just hit Control-P (or whatever your word processor's print control is) as many times as necessary and as fast as the computer comes back from dump-

ing to the buffer. In short, the buffer will then hold in its memory 32 copies of the same poster -- that's what it will then proceed to print. Simple, eh?

You should realize, of course, that all is not heavenly bliss with buffers. As with anything else, there are tradeoffs. Suppose your buffer has a relatively small memory -- say 8K, and you have written a long, long letter to your broker about where to invent the royalties from the novel. The letter begins with "Dear Sir or Madam" and ends with "Your Arrogant Master, etc..."

Now suppose that the letter is longer than 8K by just a couple of dozen characters. What most buffers will do is accept just their limit and no more. Some will just cut off the opening salutations of your letter to make room for the ending. Others will just begin to load the ending at the start of the buffer's space. Your letter will be printed right the first time because it was spooled through. But if you hit the Repeat button, what you'll get is either a letter with the opening missing, or worse yet one that begins with "Your Arrogant Master, etc..."

All the more reason for getting a buffer with lots of memory.

WHERE TO GET BUFFERS

So where do you get them and how?

Several U.S. companies make them for the Commodore at prices ranging from \$80 to \$200 U.S. Cardco and Digital

Devices come to mind. Digital Devices makes one called the U-Print, which combines a buffer and an interface to connect to non-Commodore computers. It's claim to fame is that you can expand the buffer capacity from 16K up to 256K just by buying more chips. You can find them in the ads of most Commodore computer magazines.

If you have a Commodore printer, an outfit called R.J. Brachman Associates advertises a buffer called "The Serial Box" which holds 64K and seems to have all the features for \$80 U.S.

A warning -- I know this company was advertising the same box before Christmas as a big special at \$50, but people who sent in their money were told later that the company couldn't supply it at that price, and the buffer would cost \$20 more. This is legal in the U.S., apparently, but some people here would call it "bait-and-switch" advertising and its probably illegal.

Perhaps this company shouldn't be encouraged in this practice. Nevertheless, the buffer might well be a good one, for all I know, and is one of the few available for Commodore printers.

My cheap one came by mail order from Reasonable and Commercial Sales in the U.S. -- fast service, very business-like. It works fine. The expensive one comes from Comspec in Toronto, and is also very satisfactory.

Buffers aren't just a novelty. No novelist should be without one.

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